```
S7          0   S1 AND (S2 AND S3)
S8          0   S1 AND S3
?
S S3 AND (CD90)
            1845  S3
             504  CD90
      S9     48  S3 AND (CD90)
?
S S9 AND (TOLERAGENIC OR TOLERIZING OR TOLERANCE OR IMMUNOTOLERANT)
              48  S9
              26  TOLERAGENIC
             795  TOLERIZING
          366190  TOLERANCE
             212  IMMUNOTOLERANT
     S10       0  S9 AND (TOLERAGENIC OR TOLERIZING OR TOLERANCE OR
                  IMMUNOTOLERANT)
?

Set     Items   Description
S1       4645   (HUMAN (W) PLURIPOTENT (W) STEM (W) CELL?) OR HES OR HEG
S2        582   (CARDIOMYOCYTE OR CARDIOMYOCTYES) (S) (DIFFERENTIATION OR -
           DIFFERENTIATING OR DIFFERENTIATE)
S3       1845   (MESENCHYMAL (W) STEM (W) CELL?) (S) (DIFFERENTIATION OR D-
           IFFERENTIATING OR DIFFERENTIATE)
S4          8   S1 (S) S2
S5          3   RD (unique items)
S6          0   S1 (S) S3
S7          0   S1 AND (S2 AND S3)
S8          0   S1 AND S3
S9         48   S3 AND (CD90)
S10         0   S9 AND (TOLERAGENIC OR TOLERIZING OR TOLERANCE OR IMMUNOTO-
            LERANT)
?
S S9 AND S1
              48  S9
            4645  S1
     S11       0  S9 AND S1
?
COST
       25oct04 09:12:20 User259876 Session D683.2
            $4.70    1.470 DialUnits File155
               $0.63  3 Type(s) in Format  3
            $0.63  3 Types
     $5.33  Estimated cost File155
            $1.43    0.486 DialUnits File159
     $1.43  Estimated cost File159
           $10.90    1.946 DialUnits File5
    $10.90  Estimated cost File5
           $13.09    1.336 DialUnits File73
    $13.09  Estimated cost File73
            OneSearch, 4 files,  5.238 DialUnits FileOS
     $2.25  INTERNET
    $33.00  Estimated cost this search
    $33.84  Estimated total session cost   5.445 DialUnits
?
```

Return to logon page!

```
                        Welcome to DialogClassic Web(tm)
 Dialog level 04.18.01D
Last logoff:  22oct04 13:07:50
Logon file001 25oct04 09:03:13
          *** ANNOUNCEMENT ***
                      ***
--Connect Time joins DialUnits as pricing options on Dialog.
See HELP CONNECT for information.
                      ***
--SourceOne patents are now delivered to your email inbox
as PDF replacing TIFF delivery. See HELP SOURCE1 for more
information.
                      ***
--Important Notice to Freelance Authors--
See HELP FREELANCE for more information
                      ***
NEW FILES RELEASED
***Beilstein Abstracts (File 393)
***Beilstein Facts (File 390)
***Beilstein Reactions (File 391)
***F-D-C Gold/Silver Sheet (File 184)
***BIOSIS Toxicology (File 157)
***IPA Toxicology (File 153)
                      ***
UPDATING RESUMED
                      *** RELOADED
***Toxfile (File 156)

REMOVED
***Textile Technology Digest (File 119)
                      ***

    >>> Enter BEGIN HOMEBASE for Dialog Announcements <<<
    >>>    of new databases, price changes, etc.      <<<
                      ****
KWIC is set to 50.
HILIGHT set on as ' '
 * * *

File   1:ERIC 1966-2004/Jul 21
       (c) format only 2004 The Dialog Corporation

      Set  Items  Description
      ---  -----  -----------
Cost is in DialUnits
?
B 155, 159, 5, 73
       25oct04 09:03:43 User259876 Session D683.1
            $0.72    0.207 DialUnits File1
     $0.72  Estimated cost File1
     $0.12  INTERNET
     $0.84  Estimated cost this search
     $0.84  Estimated total session cost   0.207 DialUnits

SYSTEM:OS  - DIALOG OneSearch
  File 155:MEDLINE(R) 1951-2004/Oct W3
       (c) format only 2004 The Dialog Corp.
  File 159:Cancerlit 1975-2002/Oct
       (c) format only 2002 Dialog Corporation
 *File 159: Cancerlit is no longer updating.
Please see HELP NEWS159.
  File   5:Biosis Previews(R) 1969-2004/Oct W3
       (c) 2004 BIOSIS
  File  73:EMBASE 1974-2004/Oct W3
       (c) 2004 Elsevier Science B.V.
```

```
      Set   Items   Description
      ---   -----   -----------
?
S (HUMAN (W) PLURIPOTENT (W) STEM (W) CELL?) OR HES OR HEG
Processing
Processing
        21709003  HUMAN
           11078  PLURIPOTENT
          398279  STEM
        10185214  CELL?
             143  HUMAN(W)PLURIPOTENT(W)STEM(W)CELL?
            4335  HES
             168  HEG
      S1    4645  (HUMAN (W) PLURIPOTENT (W) STEM (W) CELL?) OR HES OR HEG
?
S (CARDIOMYOCYTE OR CARDIOMYOCTYES) (S) (DIFFERENTIATION OR DIFFERENTIATING OR DIFFE
            9327  CARDIOMYOCYTE
              10  CARDIOMYOCTYES
          726496  DIFFERENTIATION
           70256  DIFFERENTIATING
          124246  DIFFERENTIATE
      S2     582  (CARDIOMYOCYTE OR CARDIOMYOCTYES) (S) (DIFFERENTIATION OR
                  DIFFERENTIATING OR DIFFERENTIATE)
?
S (MESENCHYMAL (W) STEM (W) CELL?) (S) (DIFFERENTIATION OR DIFFERENTIATING OR DIFFER
Processing
           54192  MESENCHYMAL
          398279  STEM
        10185214  CELL?
          726496  DIFFERENTIATION
           70256  DIFFERENTIATING
          124246  DIFFERENTIATE
      S3    1845  (MESENCHYMAL (W) STEM (W) CELL?) (S) (DIFFERENTIATION OR
                  DIFFERENTIATING OR DIFFERENTIATE)
?
S S1 (S) S2
            4645  S1
             582  S2
      S4       8  S1 (S) S2
?
RD
...completed examining records
      S5       3  RD (unique items)
?
T S5/3,K/ALL

  5/3,K/1     (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2004 The Dialog Corp. All rts. reserv.

16747283   PMID: 15319521
 Beta-adrenergic  and Muscarinic Modulation of Human Embryonic Stem
 Cell-derived Cardio-myocytes.
  Reppel Michael; Boettinger Cornelia; Hescheler Juergen
  Institute of Neurophysiology, University of Cologne.
  Cellular  physiology  and  biochemistry - international journal of
experimental  cellular  physiology,  biochemistry,  and  pharmacology (
Switzerland)  2004,  14  (4-6)  p187-96, ISSN 1015-8987  Journal Code:
9113221
  Document type: Journal Article
  Languages: ENGLISH
  Main Citation Owner: NLM
  Record type: In Data Review
```

Background: Embryonic stem cells provide the most promising tool for cell replacement therapy including transplantation of human embryonic stem (**hES**) cell- derived cardiomyocytes in the infarcted area of the heart. Here we provide data for **differentiation** of cardiomyocytes from **hES** cells and firstly describe their hormonal modulation. Methods: Using Micro-Electrode Arrays as a novel electrical mapping technique of beating **cardiomyocyte** clusters within whole **hES** cell aggregates, we were able to measure the field potential generation and morphology changes during hormonal modulation. Results: We found that isoproterenol provokes, similar to...

5/3,K/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

12392773 PMID: 12742992
Differentiation of human embryonic stem cells to cardiomyocytes: role of coculture with visceral endoderm-like cells.
Mummery Christine; Ward-van Oostwaard Dorien; Doevendans Pieter; Spijker Rene; van den Brink Stieneke; Hassink Rutger; van der Heyden Marcel; Opthof Tobias; Pera Martin; de la Riviere Aart Brutel; Passier Robert; Tertoolen Leon
Hubrecht Laboratory, University Medical Center Utrecht, Utrecht, The Netherlands. christin@niob.knaw.nl
Circulation (United States) Jun 3 2003, 107 (21) p2733-40, ISSN 1524-4539 Journal Code: 0147763
Comment in Circulation. 2003 Jun 3;107(21) 2638-9; Comment in PMID 12782614
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed

BACKGROUND: Cardiomyocytes derived from human embryonic stem (**hES**) cells could be useful in restoring heart function after myocardial infarction or in heart failure. Here, we induced **cardiomyocyte differentiation** of **hES** cells by a novel method and compared their electrophysiological properties and coupling with those of primary human fetal cardiomyocytes. METHODS AND RESULTS: **hES** cells were cocultured with visceral-endoderm (VE)-like cells from the mouse. This initiated **differentiation** to beating muscle. Sarcomeric marker proteins, chronotropic responses, and ion channel expression and function were typical of cardiomyocytes. Electrophysiology demonstrated that most cells resembled human fetal ventricular cells. Real-time intracellular calcium measurements, Lucifer yellow injection, and connexin 43 expression demonstrated that fetal and **hES** -derived cardiomyocytes are coupled by gap junctions in culture. Inhibition of electrical responses by verapamil demonstrated the presence of functional alpha1c-calcium ion channels. CONCLUSIONS: This is the first demonstration of induction of **cardiomyocyte differentiation** in **hES** cells that do not undergo spontaneous cardiogenesis. It provides a model for the study of human cardiomyocytes in culture and could be a step forward in the development of **cardiomyocyte** transplantation therapies.

5/3,K/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

12020988 PMID: 12242268
Characterization and enrichment of cardiomyocytes derived from human embryonic stem cells.
Xu Chunhui; Police Shailaja; Rao Namitha; Carpenter Melissa K
Geron Corporation, Menlo Park, Calif 94025, USA. cxu@geron.com
Circulation research (United States) Sep 20 2002, 91 (6) p501-8,

ISSN 1524-4571 Journal Code: 0047103
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed

... diseases, but is challenged by a limited supply of appropriate cells. We have investigated whether functional cardiomyocytes can be efficiently generated from human embryonic stem (**hES**) cells. **Cardiomyocyte differentiation** was evaluated using 3 parent (H1, H7, and H9) **hES** cell lines and 2 clonal (H9.1 and H9.2) **hES** cell lines. All cell lines examined differentiated into cardiomyocytes, even after long-term culture (50 passages or approximately 260 population doublings). Upon **differentiation** , beating cells were observed after one week in **differentiation** conditions, increased in numbers with time, and could retain contractility for over 70 days. The beating cells expressed markers characteristic of cardiomyocytes, such as cardiac alpha-myosin heavy chain, cardiac troponin I and T, atrial natriuretic factor, and cardiac transcription factors GATA-4, Nkx2.5, and MEF-2. In addition, **cardiomyocyte differentiation** could be enhanced by treatment of cells with 5-aza-2'-deoxycytidine but not DMSO or retinoic acid. Furthermore, the differentiated cultures could be dissociated and enriched by Percoll density centrifugation to give a population containing 70% cardiomyocytes. The enriched population was proliferative and showed appropriate expression of **cardiomyocyte** markers. The extended replicative capacity of **hES** cells and the ability to **differentiate** and enrich for functional human cardiomyocytes warrant further development of these cells for clinical application in heart diseases.

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?

Set     Items   Description
S1       4645   (HUMAN (W) PLURIPOTENT (W) STEM (W) CELL?) OR HES OR HEG
S2        582   (CARDIOMYOCYTE OR CARDIOMYOCTYES) (S) (DIFFERENTIATION OR -
                 DIFFERENTIATING OR DIFFERENTIATE)
S3       1845   (MESENCHYMAL (W) STEM (W) CELL?) (S) (DIFFERENTIATION OR D-
                 IFFERENTIATING OR DIFFERENTIATE)
S4          8   S1 (S) S2
S5          3   RD (unique items)
?
S S1 (S) S3
            4645  S1
            1845  S3
      S6       0  S1 (S) S3
?
S S1 AND (S2 AND S3)
            4645  S1
             582  S2
            1845  S3
      S7       0  S1 AND (S2 AND S3)
?
S S1 AND S3
            4645  S1
            1845  S3
      S8       0  S1 AND S3
?

Set     Items   Description
S1       4645   (HUMAN (W) PLURIPOTENT (W) STEM (W) CELL?) OR HES OR HEG
S2        582   (CARDIOMYOCYTE OR CARDIOMYOCTYES) (S) (DIFFERENTIATION OR -
                 DIFFERENTIATING OR DIFFERENTIATE)
S3       1845   (MESENCHYMAL (W) STEM (W) CELL?) (S) (DIFFERENTIATION OR D-
                 IFFERENTIATING OR DIFFERENTIATE)
S4          8   S1 (S) S2
S5          3   RD (unique items)
S6          0   S1 (S) S3
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OP=AND

L9	L8 and (immunotolerant or tolerizing or toleragenic or tolerance)	5	L9
L8	L4 or L6	39	L8
L7	L6 and L4	6	L7
L6	L5 same L2	25	L6
L5	(cardiomyocyte) same (differentiating or differentiation)	542	L5
L4	L3 same L2	20	L4
L3	(mesenchymal adj stem) same (differentiating or differentation)	140	L3
L2	(hES or hEG) or ((pluripotent or primordial or primitive) adj stem)	1629931	L2
L1	Chiu-Choy-Pik.in.	8	L1

END OF SEARCH HISTORY

Refine Search

Search Results -

Term	Documents
IMMUNOTOLERANT	119
IMMUNOTOLERANTS	0
TOLERIZING	562
TOLERISING	31
TOLERAGENIC	34
TOLERAGENICS	0
TOLERANCE	225936
TOLERANCES	176464
(8 AND (TOLERAGENIC OR IMMUNOTOLERANT OR TOLERIZING OR TOLERANCE)).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	5
(L8 AND (IMMUNOTOLERANT OR TOLERIZING OR TOLERAGENIC OR TOLERANCE)).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	5

Database:
US Pre-Grant Publication Full-Text Database
US Patents Full-Text Database
US OCR Full-Text Database
EPO Abstracts Database
JPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Search: L9

Refine Search

Recall Text Clear Interrupt

Search History

DATE: Monday, October 25, 2004 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set

DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES;

PALM INTRANET

Day : Monday
Date: 10/25/2004
Time: 09:37:07

Inventor Name Search

Enter the **first few letters** of the Inventor's Last Name.
Additionally, enter the **first few letters** of the Inventor's First name.

Last Name	**First Name**	
Chiu	Choy-Pik	Search

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Day : Monday
Date: 10/25/2004
Time: 09:37:07

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Additionally, enter the **first few letters** of the Inventor's First name.

Last Name	First Name	
Kay	Robert M	Search

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